DOCUMENT RESUME

ED 122 932 PS 008 558

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TITLE Research Progress Report. Section I: Research Proposals.
INSTITUTION Texas Univ., Austin. Child Development Evaluation and Research Center.
SPONS AGENCY Office of Economic Opportunity, Washington, D.C.
PUB DATE 8 Dec 67
CONTRACT OEO-4115
NOTE 61p.; For related document, see PS 008 559

EDRS PRICE MF-$0.83 HC-$3.50 Plus Postage
DESCRIPTORS Bilingualism; *Child Development; Dialect Studies; Dimensional Preference; Educationally Disadvantaged; Elementary Education; Ethnic Groups; *Federal Programs; Game Theory; *Measurement Instruments; Peer Relationship; Preschool Education; *Research Methodology; *Research Proposals; Rewards; Social Mobility; Social Status; Spanish Speaking; Teacher Attitudes; Teaching Experience; Visual Stimuli
IDENTIFIERS Child Development Evaluation and Research Center; Cooperative Behavior; Project Head Start; *Texas (Austin)

ABSTRACT

This document consists of seven research proposals for studies undertaken by the Child Development and Research Center at the University of Texas at Austin for 1967-68. Each of the proposals includes a discussion of the rationale, objective, basic design, sample population, data to be gathered, procedure or instruments to be used, relationships of the research to the currentstate of knowledge in the area, and the planned analysis. The proposed studies will explore: (1) the development of bilingual and bicultural testing instruments, (2) dialect development, (3) ethnic group membership of children and their stimulus preference, (4) the relationship of social class and social mobility to differential attitudes of teachers toward school children, (5) teacher experience and its relationship to teachers' attitudes toward culturally deprived children and Project Head Start, (6) dependency, social status, and peer selection among Project Head Start children, and (7) the cooperative trusting behavior of children in relation to ethnicity and reward conditions within the context of game theory. (BRT)

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RESEARCH PROGRESS REPORT

SECTION I: RESEARCH PROPOSALS

(CONTRACT OEO-4115)

TO

THE OFFICE OF ECONOMIC OPPORTUNITY

BY

CHILD DEVELOPMENT EVALUATION AND RESEARCH CENTER

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The University of Texas at Austin

December 8, 1967

PS 008558

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RESEARCH IN PROGRESS

This section of our progress report presents brief proposals for seven pieces of research which our Evaluation and Research Center has undertaken for 1967-68. The studies being undertaken by E. J. Cervenka, W. S. Stolz, and Charles M. Spellman are continuations of work initiated by them in 1966-67 under our contract with the Institute for Educational Development. Cervenka's work focuses on the development of bilingual and bicultural testing instruments, a matter of great importance in the Southwest. Dr. Stolz is planning a dialect analysis of language data collected in his study of last year. Spellman is to continue his studies of the relationships between the ethnic group membership of children and their preferences for certain dimensions of visual stimulus objects.

Two studies being undertaken by Helge involve the use of data collected by Pierce-Jones in the summer of 1965 - data already at hand in this Center for teachers of Head Start children. One study by Helge will explore teachers' attitudes toward children in relation to teacher social class and social mobility; Helge's second study focuses on kinds of teacher experience and their attitudes toward Project Head Start.

Soto-Padín and Manning of our Staff are undertaking new studies, and their proposals are rather more complete in their

statement than are the others submitted in this Report and briefly commented on above. Soto-Padín's study focuses on dependency, social status and peer selection among preschool (Head Start) children, while Manning's work is a beginning attempt to study the cooperative behavior of children in relation to ethnicity and reward conditions within the context of game theory. If successful, Manning's work can subsequently be backed down for use with preschool, deprived children. The various proposals follow.

Section II of our Research Progress Report contains the research proposal formats for each study and the instruments to be used in each study.

RESEARCH PROPOSAL

DEVELOPMENT OF BILINGUAL AND BICULTURAL INSTRUMENTS

AND BASIC RESEARCH

Edward J. Cervenka

Response to my previous research on the measurement of bilingual competence in English and Spanish and bicultural socialization of first grade children,[1] indicates a pressing need for relevant evaluative instruments which can be used in the development of compensatory education programs for Mexican-American, basically Spanish-speaking, children in the Southwest. And if legislation concerning the development of bilingual education presently before the U. S. Congress[2] is passed, there is likely to be an even more urgent need for such instrumentation. In response to the expressed need, I propose to refine and expand upon last years's research effort. My proposed research can be divided into

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[1] Final Report on Head Start Evaluation and Research: 1966-67 (Contract No. 66-1) to The Institute for Educational Development by the Staff and Study Directors, Child Development Evaluation and Research Center, John Pierce-Jones, Director, The University of Texas at Austin, August 31, 1967. Section VI. The Measurement of Bilingualism and Bicultural Socialization of the Child in the School Setting: The Development of Instruments, 218pp.

[2] S. 428, A Bill to Amend the Elementary and Secondary Education Act of 1965 in Order to Provide Assistance to Local Educational Agencies in Establishing Bilingual American Education Programs, and to Provide Certain Other Assistence to Promote Such Programs and some thirty other bills before the U. S. House of Representatives.

two interrelated parts: I. the development of a battery of instruments for measuring English-Spanish bilingual competence and bicultural socialization of children from preschool level (beginning at age three) to grade four; and II. the use of these instruments in basic sociolinguistic and psycholinguistic research on children's development of grammatical sensitivity and their acquisition of grammatical structure.

Proposal I: Development of Instruments

A. Objective

As a follow through of last year's experimentation and experience, I propose to develop a battery of tests of bilingual language competence and bicultural socialization which would consist of two comparable forms at two levels: Level 1 for preschool children age three to five and Level 2 for children age six to ten in primary grades one, two, three and four. It is anticipated that by the end of this proposed research, August 31, 1968, this battery of instruments would be at such a stage of refinement and development that it could be turned over to a professional test-production organization for final revision, standardization and publication. The Educational Testing Services, International Division of Test Development, Princeton, has expressed an interest in such an eventuality.

B. General Design

The general plan for developing language testing instruments will be to construct, assemble and trial test language items in both English and Spanish which native-language speaking children can demonstrate near-perfect mastery of, but on which second-language learners would score variedly, in accordance with their competance in or knowledge of the second language. These tests would be designed to be measures of a general, basic

linguistic competence, not achievement or mental ability. The source of items will be 1) language learning problems pin-pointed by contrastive analyses of the structure of English and Spanish, 2) bilingual curricula and materials in use in bilingual instruction programs, and 3) taped samples of children's speech in English and Spanish. The measures of socialization will be developed along lines taken in my earlier work, i.e., observer rating scales of child behavior to which can be added a culturally relevant set of weights.

C. Population and Sample

Both forms of the battery for Level 2 (primary grades 1-4) will be administered to all children who are enrolled in several bilingual instruction programs in the Southwest. This sample will consist of approximately 500 children, 70% Mexican-American and 30% Anglo. Also, the English tests will be given to approximately 100 other children in grades 1-4 who are monolingual English speakers who have had no close contact with Spanish. Conversely, the Spanish tests at Level 2 will be given to approximately 100 monolingual Spanish speakers in the comparable grades who have had no close contact with English. Native monolingual Spanish-speaking children will be selected from schools in Nuevo Laredo, Monterrey or in some other location in northern Mexico. Level 1 tests will be administered to approximately 100 Mexican-American

and Anglo children who are in experimental bilingual programs, Head Start, day care centers, nursery schools and kindergardens in Texas.

D. Data to be Gathered

In addition to the primary language and socialization data collected on children in the sample, data pertaining to family background and attitudes and socioeconomic status will be obtained from a smaller selection of parents and all teachers of children in the sample. Culturally relevant sets of weights will be developed by collecting by means of a written questionnaire evaluations of descriptions of specific patterns of child behavior from four groups of primary teachers: monolingual English speakers, Mexican-American bilinguals, monolingual Spanish speakers, and Anglo bilinguals. Additional data pertaining to achievement, mental ability, attendance, etc., will be gathered from school authorities where they are available.

E. Procedures or Instruments

The tests of bilingual competence and the measures of socialization will be teacher administered. Level 2 language tests will be primarily group administered. Level 1 will be entirely individually administered. A brief period of training and instruction in administering the battery will be conducted for each group of teachers involved in testing. Data from parents

and teachers will be collected by means of questionnaires (for parents, an adapted version of OEO Form CAP-HS 46, 1966, and supplemented by teacher-administered interviews with parents, utilizing an adapted version of the Parent Interview, University of Chicago, The Graduate School of Education, Chicago, 1967, and an Addendum to the Parent Interview prepared by the CDERC [Southwest], 1967, Austin). Teacher interviewing of parents will be conducted in consultation with a professional social worker.

F. Relationship to the Current State of Knowledge in the Area to be Investigated

Virtually little sophisticated effort has been made toward the measurement of bilingual language competence and bicultural socialization of children.[3]

G. Planned Analysis

1) Item analysis of all language tests to reveal item difficulty and discriminatory range as well as to indicate the performance of good and poor pupils (determined on the basis of a child's performance on an entire language battery or a particular sub-test of it) per item.

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[3] Op. cit., Final Report on Head Start Evaluation and Research: 1966-67, Section VI, Cervenka, Chapter II.

2) Empirical ascertainment and establishment of comparability of forms for the language tests.

3) Factor analysis to determine and identify the major variables underlying the measures of socialization. On the bases of this analysis more meaningful sub-measures of bilingual socialization will be determined.

4) Test-retest reliability studies of various language sub-tests for a part of original sample.

5) An attempt will be made to determine the empirical validity of the language tests, Level 2, by correlating scores on sub-tests with the results of another, unrelated investigation which is concerned with a detailed analysis of taped speech samples of Mexican-American children. This attempt would involve an additional group of children who will have had the language tests, Level 2.

6) Preparation of experimental language development norms for the age groups, grade levels, ethnic groups, and programs encompassed by the sample population.

Proposal II: Basic Research

A. Objective

Concurrently with the project described in Proposal I, a basic research study is proposed which would examine the development of grammatical sensitivity (from which can be inferred knowledge of grammatical structure) in four classes or types of children, ages three to ten: English-speaking monolinguals, native English speakers in a program of bilingual instruction, native Spanish speakers in a program of bilingual instruction, and native Spanish-speaking monolinguals.

B. General Design

Utilizing the data collected by means of the tests of grammatical sensitivity (one sub-test in each language battery administered to the population specified in Proposal I), on which children are asked to make discriminatory judgments of a series of grammatical and ungrammatical oral sentences, an intensive examination will be made of the development of grammatical sensitivity and structure in children ages three to ten. Initial investigation has demonstrated that this technique is a feasible, efficient and promising one for studying the grammatical sensitivity and grammatical knowledge of large groups of young children.[4] The grammatical anomalies or "errors" included in the

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[4] Ibid., Chapter IV.

tests will be evenly divided between grammatically anomalous structures often resulting from interference from a second language and those often due to autogenous origins within the native language of the child. Also, each anomalous sentence will be matched by a comparable sentence in its standard or regular form. An attempt will be made to take partial account of the semantic factor involved in the child's comprehension of each sentence by utilizing data from the vocabulary tests (again a part of the comprehensive battery to be administered to the entire population) which contains many of the important content words occurring in the sentences on the grammar tests.

C. Population and Sample

A random sample of approximately 40 children will be selected for each age level and from the four groups of children in the sample specified for Proposal I.

D. Data to be Gathered and Procedures

The primary data for this investigation will be those derived from the child and the child's teacher and parent by means of the testing, questionnaires and interviews described for Proposal I. In addition, selected information on parent speech will be collected by means of a special dialect interview conducted by teachers and/or the principal investigator and recorded on tape. This brief interview will be aimed at collecting

information on the parent's speech which relate to the grammatical structures on which the child was tested, that is, an effort will be made to determine to what extent is the child's knowledge of specific syntactic structures related to and determined by the speech of his parents. Also, an open-ended interviewing technique will be used with children in the sample to explore their notions of grammaticality. For example, children will be asked to repeat an anomalous sentence and note will be made on whether or not the child automatically and unconsciously changed the anomaly in the sentence. Also, children will be asked to talk about their responses on the test, to say why a particular sentence sounds grammatical or not (i.e. correct, right, alright, good, o.k. or incorrect, wrong, funny, strange, odd, etc.), to correct an ungrammatical sentence, to make discriminatory judgments on other sentences which are similar to those on the tests, etc. Basically this will be an attempt to utilize children's own subjective feelings, reactions and impressions concerning language as a source of psycholinguistic data and new insights.

E. Relationship to the Current State of Knowledge in the Area to be Investigated

A considerable amount of recent psycholinguistic research has been devoted to the normal, middle-class child's acquisition

of syntax.[5] The great concern of modern linguistic theory and psycholinguistic research with syntax or grammar is a reflection of the growing realization that syntax is in a real sense the most basic part of a language system, the most important part of language that a child learns or develops. However, few investigations of this type have been concerned with socially disadvantaged children and even less with bilingual children or incipently bilingual children ages three to nine. Generally, child language has been studied more comprehensively up to age two or three, than beyond three. Thus, it would seem that a study of the type proposed here would have theoretical import as well as practical relevance. It is anticipated that many practical implications could be derived from such a study regarding the form and timing of language training programs for children in the early grades.

F. Planned Analysis

1) Correlation of the various grammatical structures mastered by different groups of children at different developmental stages.

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[5] For a brief review of recent psycholingustic research on children's acquisition of syntax see, S. Jay Samuels, "The Psychology of Language," Review of Educational Research, Vol. XXXVII, No. 2, April, 1967, pp. 109-119.

2) Correlation between grammatical sensitivity (or feeling for, knowledge of grammatical structure) and sociological factors operating in children's environment at different stages of development (e.g. teacher and parent attitudes toward a language).

3) Comparison and correlation of interference vs. autogenous anomalies in grammatical structure at different stages of children's development.

4) Establishment of tentative sequences of development of grammatical sensitivity and structure for the four different groups of children.

RESEARCH PROPOSAL

PREPARATION OF DIALECT ANALYSIS OF LINGUISTIC DATA COLLECTED IN THE STUDY, "THE ROLE OF DIALECT IN THE SCHOOL SOCIALIZATION OF LOWER CLASS CHILDREN"

Walter S. Stolz

1. Introduction

This project is intended as a follow-up to the recently completed study directed by Dr. Stolz, "The Role of Dialect in the School Socialization of Lower Class Children" (see Final Report dated August 1, 1967). That project was a sociolinguistic study aimed at exploring and comparing the relationship between language and social attitudes as encountered in two groups of elementary school children: lower-class "Cedarchopper" children in Leander, Texas, and middle-class children in Barton Hills, a suburban area of Austin, Texas. The study amassed large quantities of data in the form of tape-recorded conversations and readings by the families and teachers of the children; detailed demographic information was obtained from everyone interviewed. However, due to limitations of time, only preliminary analyses based on a small part of the total data were carried out in that study.

Nonetheless, these preliminary analyses indicated positive correlations between socioeconomic class and linguistic performance.

These correlations seem to pervade the entire structure of the language: 1) phonological variations ranging from vowel quality to sentence supra-segmentals have been noted; 2) syntactic differences are manifest throughout, but especially so in the verb system; 3) striking differences in lexical usage were noted among the school children, but were not readily observable among the adults due to low frequency of occurrence of relevant items. Furthermore, for several of the linguistic variables analyzed, important differences in stylistic usage were observed among all literate speakers, and among those non-literate speakers from whom both casual and non-casual speech was elicited.

Since the above-mentioned variations and correlations were gleaned from cursory analyses of the vast amount of data collected, the results reported in the Final Report were highly tentative and only suggestive of the results that might be obtained once a rigorous dialect analysis is completed. A basic assumption of the study is that the lower-class children speak a non-standard dialect as opposed to that of the middle-class children (Standard Central Texas English). The preliminary analyses indeed indicate that this assumption is valid, but any conclusive findings must be based on a more precise description of these dialects.

2. Procedures and Objectives

This project, then, proposes to prepare a description of certain aspects of linguistic usage both in Standard Central Texas English and in the non-standard variations of this speech as attested in the body of data gathered in the previous study. The system to be described will of necessity be restricted to selected topics which the preliminary analyses indicated to be of importance as far as non-standard deviations are concerned. All of the topics chosen for analysis are syntactic phenomena. These are tentatively limited to:

a) the use of the auxiliary,
b) subject-verb agreement,
c) irregular verb forms,
d) negative constructions, and
e) relative clauses.

The number and nature of these topics may be further limited or expanded as the analysis progresses.

Phonological and lexical phenomena will not be specifically treated except insofar as these are directly related to the syntactic problems under consideration. Phonological variations will not be dealt with primarily because of the large amount of time required for a non-trivial treatment. Lexical variations, although of major importance in sociolinguistic stratification, are omitted from the

proposed project because of the low frequency of occurrence of equivalent forms in the data collected from the various informants.

The proposed linguistic analysis will be carried out within the framework of generative grammar. The use of this approach to analysis will be extremely important and rewarding in contrasting the standard with the non-standard speech patterns. The resultant analysis will suggest the precise point at which the grammar of the non-standard speaker deviates from that of the speaker of Standard Central Texas English. Furthermore, this approach to description is essential in order to clearly illustrate how the speakers manage the stylistic variations noted in the preliminary study of the data.

3. Relevance of Proposed Research

On the basis of the cited linguistic variations and their correlations with socioeconomic classes, it is reasonable to speculate that a linguistic usage pattern similar to that which Labov (1966) discovered in New York City will emerge from a more extensive and intensive examination of the data now in hand. Any agreements with Labov's discoveries in a far different dialect and culture region would be informative and useful for future sociolinguistic studies.

Furthermore, such a dialect analysis may offer new insights into linguistic and sociolinguistic theory. The results may well give indications of the processes of language change and dialect spread. Analyses according to generative theory have already been shown to offer such results in dialect studies devoted strictly to phonology (e.g., Keyser, 1963). As yet no published study has applied generative grammar to a general sociolinguistic study.

The proposed project is also of immediate practical importance. A knowledge of the dialectal variations will readily benefit educators in their teaching of the standard language. Teachers may avoid much frustrating effort for all concerned by being able to point out the specific differences between standard speech and that of the lower-class child. In order to accomplish this, the details of the standard and non-standard language, including the similarities as well as the differences, must be known. The planned analysis should provide many of these details.

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RESEARCH PROPOSAL

A STUDY OF STIMULUS PREFERENCE

Charles M. Spellman

A. Objectives

The objective of the proposed study is to obtain meaningful information on children's perceptual styles in regard to stimulus preference. Of particular interest is the relationship of stimulus preference and ethnic background.

One of the major aims is to duplicate parts of last year's work in a more refined manner with a larger number of subjects. The specific objectives are two-fold at this point; (1) to test for differences in stimulus preference among children of different ethnic backgrounds, and (2) to follow up on the Ss tested last year in order to determine what happens to stimulus preference over time and education.

B. General Design

The general design to test for ethnic differences can be expressed in the following:

Ethnic Group

	Anglo	Negro	Indian
Form Responses Avg. of Responses			
Color Responses			

A similar design can be used for summarizing differences later in time.

C. Sample

The population will consist of Project Head Start and first grade Ss of Anglo, Negro and Indian extraction. The entire sample will come from Anadarko, Oklahoma. Thirty Negro, 30 Anglo and 30 Indian children will be used.

D. Data Collection

The number of responses made by Ss to the SPI (Stimulus Preference Inventory) will constitute the data.

E. Instruments

The instrument to be used is the Stimulus Preference Inventory, the same one that was used last year. Because a complete description is already on file in Washington, a further one will not be offered.

F. Discussion

Stimulus preference is certainly not a new topic of investigation. However, the relationship to ethnic group membership has not been adequately studied. One of the questions raised by last year's investigation has to do with the effect of school on stimulus preference. Preliminary indications are that there was a differential regression effect during the summer, i.e., the Negroes showed a shift back towards color preference. Some people in the field would view this as indication of cognitive regression detrimental to the students' learning ability. Other investigators maintain that

particular preferences for color or form reflect basic personality orientation. Such a position might be worked in nicely with the responses of the Indian Ss, but more work needs to be done in that direction.

Still other investigators would view stimulus preference as nothing more or less than that, merely a stimulus preference growing out of certain influences in the home. The interesting question has to do with what makes for the ethnic differences?

Apparently learning ability depends in some part on one's stimulus preference. For instance, children preferring form tend to have more difficulty in dealing with color oriented tasks than do color preferring Ss and the opposite holds true. Thus there seems to be important reasons for studying stimulus preference.

C. Planned Analysis: Analysis of Variance

RESEARCH PROPOSAL

THE RELATIONSHIP BETWEEN SPECIFIC AND GENERAL TEACHING EXPERIENCE AND TEACHER ATTITUDES TOWARD PROJECT HEAD START

Swen Helge

The cognitive structure of an individual can be conceptualized as consisting of a variable number of hierarchically arranged cognitive traces, which account for the continuing representation of past experiences in both the nervous system and present cognitive structure of that individual (Ausubel, 1962). This current cognitive structure, and therefore previous experiences, influences the present perceptions and behaviors of the individual.

Riessman (1962), Wilson and Goethals (1960) and Kornberg (1963) indicate that the attitudes, expectations, and behaviors of teachers of culturally deprived children differ with variations in teaching experience with the culturally deprived. It appears that teaching experience is an important variable influencing the formation of teacher attitudes toward the culturally deprived. Riessman and Kornberg emphasized that more research is needed in this area, especially in specific teaching experience with the culturally deprived, as opposed to teaching experience in general.

This study was designed to investigate the effects of teacher experience on the attitudes of teachers toward culturally deprived children and Project Head Start. From a sample of approximately 1,000 teachers who participated in a summer training workshop at The University of Texas in 1965, a random sample of teachers varying in years of teaching experience was selected. In the spring of 1967 these teachers were invited to participate in a follow-up study. The purpose of this study, which was not disclosed to the participants, was to determine whether teacher attitudes had changed with increments in teaching experience. One hundred sixty-seven teachers completed and returned the Autobiographical and Experience Form (form 25b), which contained data on teaching experience and some questions to which the teachers had responded in the summer of 1965. Thus, data was obtained in the summer of 1965, up to two years of teaching experience elapsed, and then post-test data in the late spring of 1967 was obtained.

Differences in attitudes between pre-test (1965) and post-test (1967), between groups varying in years and type of teaching experiences, and in the rate of attitude change will be tested for significance using double classification analysis of variance.

RESEARCH PROPOSAL

THE RELATIONSHIP OF SOCIAL CLASS AND SOCIAL MOBILITY TO DIFFERENTIAL ATTITUDES OF TEACHERS TOWARD SCHOOL CHILDREN

Swen Helge

The cognitive structure of an individual is defined as a modifiable, hierarchical organization of the knowledge an individual has about a particular subject at a specified time (Ausubel, 1962). The purpose of this postulated structure is to understand the potential meaningful signs, symbols, concepts, or propositions integrated within ones cognitive structure that may influence his behavior.

Since every individual is differentially exposed to varied subject matter and sources of information at different times, it is probable that no two individuals have identical cognitive structures; however, it also is tenable that individuals, exposed to similar subject matter from similar sources of information at similar developmental eras, will have similar traces within their cognitive structures.

In this study the focus is on attitudes, a special type of cognitive structure defined by Ausubel (1963) as a set of ideas of particular stability, clarity, discriminability and

relevance further characterized by specificity of direction, object, and intensity. Social stratification as reported by Sewell (1961) and defined by the occupational-educational categories of Hollingshead and Redlich (1953) is used to differentiate teachers into social levels in this study. The differential effects of varying social class degrees of social mobility on the attitudes of teachers toward the behavior of children and toward school children will be examined in this study.

To obtain occupational-educational data, utilized to locate a teacher within the social substratum, the Autobiographical Data Form, developed by the Personnel Services Research Center and administered to the teachers during a summer workshop at The University of Texas in 1965, will be used. This data will be collated with teacher responses to two other scales, the Behavior Classification Check List (form 11b1) and Dimensions of Teachers' Opinions (form 12c) also developed by the Personnel Services Research Center. While form 11b1 provides data on teacher attitudes toward child behavior in school, form 12c is an indicant of teacher attitudes toward school children.

Double-classification analysis of variance will be employed to determine whether there are significant differences

RESEARCH PROPOSAL

DEPENDENCY, SOCIAL STATUS WITHIN PEER GROUP, AND PEER SELECTION: A STUDY IN GROUP DYNAMICS OF PRE-SCHOOL CHILDREN

J. L. Soto-Padín

Introduction

An individual who reaches the age of twenty-one in our society is, with a few exceptions, considered ready to vote. He is deemed able to participate responsibly and efficiently in important decisions of his society. That this age is used indicates that our society assumes that by age twenty-one an individual has completed certain stages in his development and has the needed capacities for functioning at such stages. At twenty-one the human individual has completed his physical growth, (e.g., he is as tall, heavy and strong as he will ever be); he has attained mastery of certain perceptual-motor skills (e.g., he is able to walk, run and move freely in all sorts of ways); he has developed affectively (e.g., he has emotions and feelings); he has mastered the structure and an extensive vocabulary of his language so that he is able to communicate; (largely from his communicative ability we can draw inferences about his cognitive or intellectual development); and he has learned the ways and attitudes of his particular group and he has assimilated the values and point of view of his culture. In each area of development the human individual proceeds in time from a beginning

through different levels of competence which are the result of the combined effects of maturation and learning.

> Development, as Gordon (1962) says: "...like any process, is influenced by what has gone before. It is not, however, simply a process of adding on, such as increase in height and weight or mental age. It is a process of change, in which the child develops by observing everything that is happening to him, combining it with what is there, and mixing these well with the changes which are occuring to his body. What emerges is a new organization, a new creation from the blending of these ingredients". (pp. 5)

For the individual's development to reach its optimal level, learning experiences must be the most adequate and that they come at the proper moment, and at the most proper frequency and intensity. This combination of "right moment" and "most proper frequency and intensity" should be taken to mean that there are possibly many different combinations between the child's inherited characteristics or developmental potentials and the kinds, timing, frequencies and intensities of experiences. Differences in individuals are accounted for by these possible combinations. With regard to "good combinations," while discussing the learning process, Dinkmeyer (1965) writes:

> "This child's maturity has been shown to have a significant influence on the efficiency of his learning. In a number of investigations concerned with the maturation-learning relationship it has been demonstrated learning is most effective in certain periods of the developmental cycle of a specific growth." (pp. 124)

and in relation to the socialization process adds:

> "The biological maturation of the child undergirds his social development. Maturation is basic to the development of certain motor skills and some nerves and muscles used in language. These skills, both motor and language, are basic to a number of relationships. The child must also develop some capacity to differentiate, to emphasize and to understand before he can function effectively in the social world."

So there are stages of maturation where particular processes and experiences fit better and there are emotional adjustment states that help more also. In the same way there are particular experiences that fit better for a healthier progress. "Richer" experiences is a term sometimes used to relate to some better experiences, that is, experiences and instances that can help more for a positive progress.

The extraordinary number of possible combinations in overall characteristics of children at, for example, age five (when kindergarden experience usually starts) is as great as the total number of human beings ever born, and yet to be born. And the number of possible combinations, of course, cannot be changed. This does not mean that nothing can be done. If, where changes can have effect (nutrition, language, social adjustment, operational skills, etc.), efforts are made so that resources are wasted the least, a great amount of unnecessary and undesireable variations can be eliminated and positive changes obtained. Such is our challenge.

The Problem

Lambert (1964) in discussing recent research done with different cultures states in relation to family reering differences,

> "It turned out that these differences in family pressures are due preponderantly to differences among mothers rather than among cultures; indeed, a number of them are found in studies dealing only in America"

and presents some ways in which the family settings differ, namely....

> (1) the demands for responsibility made on children, that is, the number and kinds of duties expected of them; (2) the emotionally positive behaviors of mothers to their children, with praise, absence of physical punishment, and general warmth; (3) the degree of control demanded over aggression toward peers both inside and outside the family; (4) the degree of control over aggression and disobedience toward parents; (5) the extent to which the mother does the caretaking of babies; (6) the extent of her taking care of older children, (7) the degree of the mother's emotional stability (does she blow hot and cold?)" (pp. 13)

The list, which by the way is not exhaustive, brings a quite clear idea on the great number of variables that, in addition to the hereditary sources, enters into the experience of the child through the most important agency in his process of socialization. Thus, states Mussen (1963)

> "....a child's first social learning occurs at home, and his earliest experiences with his family, particularly with his mother, are critical in determining his attitude toward, and his expectations of, other individuals."

And in relation to maladaptive behavior adds:

> ...."clinical studies show that home atmosphere is also related to general emotional adjustment. Children between the ages of four and six from democratic homes are more stable, less argumentative, more sensitive to praise and blame, more socially successful, and more considerate than children from authoritarian homes. Over attention or over-indulgence at home also leads to many kinds of maladaptive, infantile behavior - for instance, crying easily, dawdling, lack of independence and persistence, withdrawal, and high dependence on adults." (pp. 72)

In the last few years, with the increasing general interest in research in the fields of child development, child adjustment, groups dynamics, etc., frequent work has been done on the problem of the child's dependence and its interrelations with other processes in his development. Moore (1965) in a study dealing with child rearing practices found that low dependency in children and high material permissiveness were related to high autonomy in boys. Akraue (1965) studying kindergarden children from Ithaca, New York, concluded that parental inconsistency (father and mother) produced greater dependency of the child. Rosenthal (1965) working with a sample of 3-5 year old girls found that the child classified as high dependent toward mothers show a significantly higher frequency of dependency behavior toward strangers than children classified as low dependent toward mothers.

It seems then that some kinds of family settings are more prone to hinder independency development, limiting the child's chances of a better adjustment to social life, since the absence of autonomy and initiative will restrict sound leadership development and other group connected experiences.

According to Gibbons (1963) autonomous activity is considered a skill which enhances the competence of the individual to deal with threats of self-esteem and serves to strengthen his self-confidence.

The relevance of child's dependency level at different maturational and chronological levels seems to be a worthwhile area of further investigation. Its connection to significant elements of group dynamics, especially for out of the home experiences, as for example early school years, makes it very relevant at present, now that the critical value of school readiness has been realized. Findings in this and related areas can help develop ideas to help the preschool child in his social and emotional development in his early home and school life experiences.

Purpose of This Study

The purpose of this investigation is to relate child dependency scale measures (to be developed with information which will be gathered from mothers) with two other variables (1) child's development

of social status in his school peer group and (2) child peer selections for companions in different school activities. The study will be conducted with three different ethnic groups so that variations between ethnic groups (all in the lower socio-economic level) can be considered. Three basic questions will be considered in this study: 1. Is the child's dependency level significantly different for the five-year old children (within sex and intelligence levels) for the three ethnic groups (Anglo, Mexican-American and Negro)? 2. Does the independence level correlate high with the level of social status among peers in the school setting? Is the relation the same for the three groups? 3. How does dependency level relate to peer selection?

The Design of the Experiment

Sample: This study will be conducted with pre-school children participating in Head Start programs in the vicinity of Austin, Texas. There are ten Head Start groups in the Austin, School District at present. Three groups, one of each ethnic background (Anglos, Mexican-Americans, Negroes) will be included in this study for a total sample of approximately 75 Ss. It will not be possible, as it would be desireable, to include more than one of each ethnic group (so that variations between groups of the same ethnic background could be studied). The reasons for

limiting the sample are (1) It would increase the sample to a magnitude that the investigation could not handle adequately, given the actual and expected resources (2) there is only one group of Anglos in the vicinity which can be used. Sample selection will be by units of groups (groups taken as a whole). Groups selection will be at random when other circumstances do not require adjustments.

Instruments

It might be possible to locate existing dependency measures for children. A search for such instruments is in progress. Otherwise, scales will be developed by the author with the assistance of other personnel of the Child Development Evaluation and Research Center and staff members of The University of Texas. Such instruments will consist of a check list of the child's performance of such daily routines as the ability to tie his own shoes, comb his own hair, dress himself, get a drink of water, etc. Other items will be obtained from interviews with mothers, e.g., attention seeking, following around, sitting on lap, etc. Another scale will be developed (if a suitable one is not found) to estimate social position of a child within his school group. A sociometric scale will also be developed or adapted for use in the school setting to establish peer connection.

A check list will be prepared to record other pertinent data on child behavior in the school setting, if possible, through teacher observation. Films can be used to record children's behavior in group activities. These will be used to study gestures, body motion and other expressed behavior of children. The Stanford-Binet Intelligence Test will be administered to the children.

Methodology

After proper approaches are made to the authorities concerned, the groups will be informally visited by the investigator in order to get acquainted with the school setting and to allow the children to become familiar with the researcher so that anxiety arousal can be minimized when actual work is performed. Meanwhile, instruments will be constructed and other details of the project worked out. After these first informal visits, formal observations of the groups (once or twice a week) will start. The children will not be informed of the study at any time. All data gathering processes with the children will be conducted in the most informal ways. After the first three weeks of observation the first measure of social status and sociometric selections will be made. After this, interviews will start. By the end of the school semester social status sociometric measures will be gathered again plus a measure of general intelligence. The information (including films) will then be processed. All basic data will be card punched. Analysis

of covariance will be used in the analysis where subgroupings for analysis seem adequate so that a posteriori sample adjustments can be made. Factor analysis will be used to obtain item sets for the dependency scale. Sociometric analysis will be used with the information on social status and peer selections.

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RESEARCH PROPOSAL

COOPERATIVE, TRUSTING BEHAVIOR AS A FUNCTION OF ETHNIC GROUP SIMILARITY-DISSIMILARITY AND OF IMMEDIATE AND DELAYED REWARD IN A TWO-PERSON GAME

Brad A. Manning

Introduction

One of the basic developmental tasks in the socialization process is the development of cooperative behavior. Whether or not the child has learned to trust others is crucial to the occurrence of cooperative behavior. The culturally deprived child's environment has been described by Riessman (1963) as encouraging cooperative behavior within an extended family. On the other hand, the child's association with groups other than the extended family may be rather limited. Thus, there may be few opportunities to engage in trusting, cooperative behavior with "outside" groups. Difficulties often arise when the culturally deprived child is required to interact with diverse groups of differing ethnic background in the school setting.

It would seem that the child could greatly benefit from the opportunity to associate with members of such groups under conditions in which he was rewarded for trusting behavior and encouraged to freely interact in a cooperative manner. Further, if it is granted that the development of trusting, cooperative

behavior with many different types of people is important to the culturally deprived child's adaptation both to the school and to the environment at large, it would seem most necessary to examine both the degree to which trusting, cooperative behavior exists within the broad class of children designated as "culturally deprived", and some of the basic conditions under which trusting, cooperative behavior may be developed.

The problem then arises of determining how cooperative, trusting behavior may be studied in the child. Maier (1965), in summarizing Erikson's theory of child development, pointed out that Erikson's theory placed a strong emphasis upon the fact that the play of children may be considered as a form of self expression of the ego. Through play, the child experiments with his environment and practices new behaviors in an attempt to organize his relationship to the environment. Given the importance of play both for the child and for the adult seeking to understand the child, it would seem ideal to incorporate play with the major concern of this proposal.

One way of studying cooperative, trusting behavior and also competitive behavior in a well-controlled laboratory setting which would also incorporate a situation in which the children could play, is that of a game. Such a game should have definite

criteria of "cooperative" and "competitive" action known to the players, as well as means of identifying player's attempts to maximize joint, as opposed to individual, gain.

There is a rapidly growing body of literature on experiments which utilize games and which make it possible to thereby study cooperative and competitive behavior. Rapoport (1959) outlined the rationale for such an approach:

> Game theory is an attempt to bring within the fold of rigorous deductive method those aspects of human behavior in which conflict and cooperation are conducted in the context of choices among alternatives whose range of outcomes are known to the fullest extent to the participants. (Rapoport, 1959, page 65)

Gallo (1965), in defense of using the type of game described above, stressed the importance of supplying a well controlled, small group interaction situation with easily quantifiable data. For example, the number of cooperative responses is but one of the many possibilities of organizing game experimental data in a quantifiable fashion. Games of this type also provide an excellent opportunity to study the individual's perceptions, motivation, personality structure, attitudes, and, of course, how he learns to cooperatate or compete with others.

Gallo (1965) defines a game as "a situation in which the persons involved are attempting to attain some goals and in which

their success or failure is dependent not only upon their strategy choices but also upon the strategy choice of the other individual (s) in the situation" (Gallo, 1965, page 68). Thus, the theoretical basis for the use of the game approach is that it is able to focus directly upon cooperative and competitive behavior in a situation in which the individual must explicitly choose to cooperate or compete on the basis of some factors relating to the other player, as well as to his own orientation.

In this proposed study the two major concerns are with the extent to which cooperative, trusting behavior can be demonstrated between the broad class of children designated as "culturally deprived" and some of the basic variables which are important in its development. These concerns lend themselves easily to the game approach described above. An added advantage of this type of game is the fact that the experimenter can control the information perceived as "the outcome of the other player's choices" without letting the players become aware of such intervention. Hence, in a two-person game, player A would make his choice in the game, which would be recorded by the experimenter; but the information that player B received about player A's choice may or may not represent player A's actual choice. With such control it would then be possible to set up a schedule of reinforcement in order to optimally develop the desired type of behavior - i.e.,

cooperative, trusting behavior. The description of a game of this type will be presented in the method section.

The usual ethnic groups represented among the culturally deprived of the Southwest are the Mexican-Americans, Anglo-Americans, and Negroes. These three groups would undoubtedly differ in the degree to which they would engage in cooperative, trusting behavior both in their interaction within their own respective ethnic groups and in their interaction with the other groups. It would be expected that all groups would increase their cooperation as a function of trials. It would also be expected that the Mexican-American group would engage in more within-group cooperation (i.e., two Mexican-American children taking part in a game together as opposed to a Mexican-American child taking part in the game with a Negro or Anglo-American child) than would Negroes or Anglo-Americans. This would be expected in that the Mexican-American's values emphasize the concept of "La Raza" (the race), which stresses a feeling of oneness within the group (Madsen, 1964). To the degree that the Negro culture has developed or is presently developing this same type of feeling, one might expect a great deal of within-group cooperation. The Anglo-American group would probably show the least within-group cooperation of the three groups, since it is probable that there would be some identification with the

competitive majority group culture. On the other hand, it would still be expected that Anglo-Americans would cooperate more with members of their own group than with the other groups.

To the extent that different ethnic groups have different attitudes, the literature concerned with the effects of attitudes on social interaction would be relevant in terms of predicting relative difference in the amount of trusting, cooperative behavior that would occur between ethnically similar and dissimilar pairs in the general type of game described above. It has been shown that: college students will assume a greater similarity of attitudes between themselves and their classmates, as compared with other classes, than is actually the case (Newcomb, 1943); that individuals who associated social class with way of life (and therefore, presumably with attitudes) tended to be attracted to people of their own class (Hamman, 1952); that interpersonal attraction is a function of shared opinions about common associates as well as important and relevant objects (Newcomb, 1965); that interpersonal attraction is related to the degree to which one projects one's own values upon another person (Smith, 1957); that affiliation need and attitude similarity are related to interpersonal attraction (Byrne, 1961); that husbands and wives not only possess similar attitudes but also perceive them to be more similar than is the case in actuality

(Byrne, et. al., 1963); that similarity-dissimilarity of attitudes influences the degree of attraction that white students feel towards Negroes (Byrne, et. al., 1964); and that attitude statements can act as positive and negative reinforcements in a learning task (Golightly, et. al., 1964).

In inspecting some of the above results, one may discover certain trends. Interpersonal attraction seems indeed to be a function of attitude similarity-dissimilarity. Similar attitudes will result in positive attraction and dissimilar attitudes in negative attraction. Individuals seem to assume beyond the actual evidence that other individuals whom they like hold attitudes about important and relevant matters which are similar to their own. Such relationships might be extended in a number of directions. For example, to the relationship shown between similar attitudes and positive attraction, we might add a third term such that similar attitudes: positive attraction: trusting, cooperative behavior. One author, writing in the context of international problems, has hypothesized that similar cultures (defined as those sharing many of the same values and hence accepting each other) would be more prone to form collaborative policies (trusting, cooperative behavior) than would cultures which are dissimilar. From the material discussed in the above few paragraphs, it would seem likely that ethnic groups share

a number of attitudes among themselves which they do not share with members of other ethnic groups, and that this would produce more within-group cooperation and trust than between-group cooperation and trust.

Both the type of incentive and the way in which incentive is given in the game are of crucial importance. Since the subjects will essentially be learning to cooperate under conditions of experimentally aroused and naturally occurring distrust, it is important that the incentive be both meaningful and effectively given. Davis (1941, 1943) has pointed out that the lower-class child is too preoccupied with survival from one day to the next to value anything other than material rewards. Dovan (1956) found that lower-class subjects did not perform successfully on a series of tasks when material reward was not given. Terrell and Kennedy (1957) and Terrell, Durkin and Wiesley (1959) found similar results for lower-class children using such material incentives as candy. In general, candy would seem to be the most appropriate incentive for this type of population.

Whether or not reward is given immediately is also an important variable for a culturally deprived population. The effects of immediate and delayed reward can be studied separately by giving one half of the group their candy immediately after each choice in the game and the other half of the group a token

which can be exchanged at a later date for a piece of candy. LeShan (1952) pointed out that lower-class parents tended to train their children with immediate rewards and punishments. Gordon (1956) stated that both postponement of gratification and symbolic rewards do not positively effect the motivational system of the lower-class child. The lower-class child's goals are more immediate and utilitarian.

Thus, from the discussion above, several hypotheses may be made. From the studies concerned with the effects of attitudes on social interactions, the first hypothesis of the proposed study is that: similar ethnic-group players in a two-person game (i.e., Mexican-American: Mexican-American, Negro: Negro, Anglo-American: Anglo-American) will engage in more cooperative, trusting behavior than will dissimilar ethnic-group players (i.e., Mexican-American: Negro, Mexican-American: Anglo-American, Negro: Anglo-American). From the above materials concerned with the effects of immediate and delayed reward, the second hypothesis is that: groups given immediate reward in the form of candy will engage in more trusting, cooperative behavior than will groups given delayed reward in the form of tokens which can later be exchanged for candy. A third hypothesis is that: all groups will learn to engage in cooperative, trusting behavior as a function of trials.

METHOD

Subjects

The subjects will consist of 144 children from a culturally deprived population representing the first few grades of school. This total group will be divided into 72 males and 72 females. The males and females will be divided equally within six groups of similar and dissimilar ethnic combinations. These six groups will in turn be split into two additional groups each, one receiving immediate reward and the other receiving delayed reward. Thus, there will be a total of twelve groups consisting of twelve subjects each.

Experimental Conditions

Two major treatment effects will be manipulated. The effect of similar and dissimilar ethnic group partners will be one major treatment effect. The second major treatment effect will be that of immediate and delayed reward. The sex variable will be controlled for in that half of each of the twelve groups listed above will consist of each sex. The groups that will be run are then as follows: 1) Mexican-American: Anglo-American: immediate reward, 2) Mexican-American: Anglo-American: delayed reward, 3) Mexican-American: Negro: immediate reward, 4) Mexican-American: Negro: delayed reward, 5) Negro: Anglo-American: immediate reward, 6) Negro: Anglo-American: delayed reward,

7) Mexican-American: Mexican-American: immediate reward, 8) Mexican-American: Mexican-American: delayed reward, 9) Negro: Negro: immediate reward, 10) Negro: Negro: delayed reward, 11) Anglo-American: Anglo-American: immediate reward, and 12) Anglo-American: Anglo-American: delayed reward.

Uniform Events of the Experiment for All Groups

All subjects will be brought into the experimental room two at a time for an experiment that will take about one hour. They will first be seated side by side in the center of the room. At this time, they will be informed that they will have the opportunity today to take part in a game with each other in which they will have a chance to win some candy. Then they will both walk over to one of the experimental booths (which are described below) while the experimenter explains the game to them. In brief, they will be told that they have two choices on each of 25 trials in the game and that they will take turns in making their choices. In other words, one subject will make his choice while the other one waits. The two choices are 1) the subject may decide to pull a lever that will give him one piece of candy and the other subject one piece of candy (i.e., trusting, cooperative behavior), or 2) the subject can decide to pull another lever that will result in his receiving one piece of candy and the other subject not receiving any (non-trusting,

competitive response). It will be made clear to the children that they can keep the other subject from winning as much candy as they do on any given trial, but that he may do the same thing to them on the next trial, when it is his turn to choose. The subjects will be told that under no circumstances will they be allowed to talk or ask questions during the game. They will then be questioned in detail to make sure that they understand the game and the restriction of not talking during the game.

As stated above, there will be 25 trials. All the information received by the subjects about the other subject's choices will be entirely controlled by the experimenter. The subjects will take turns in making their choices. They will each be rewarded for cooperation and given no reward for non-cooperation in such a manner that non-reward will appear to be retaliation on the part of the other subject. This will be done by first giving the appropriate reward to the subject after he has made his choice but making the reward following the "other subject's choice" contingent upon his own cooperation on the previous trial. For example, if subject A chooses to give and receive one piece of candy (cooperative response), he will be given one piece of candy after he makes his choice and another piece of candy after subject B makes his choice, regardless of what subject B chooses. If subject A had chosen to compete, the above sequence of events would be the same, except that subject A would receive no candy

after subject B's choice. The details of administering reward are discussed below.

The game will be run with a portable apparatus which can be set up in any small room. This apparatus will consist of three panels which can be placed upon a table and separated from each other by two partitions. The subjects will be seated at the table, one on each side of the experimenter and separated from him by the partitions. Each subject's panel will contain two levers which, when pulled, will both activate a bell (in order to make the game more realistic and communicate to the subject that he had done something to the environment by pulling the lever) and turn on a light on the experimenter's panel, informing the experimenter of the subject's choice. The levers on the subject's panels will represent the two choices possible in the game. Pulling one lever will indicate that the subject has chosen to get one piece of candy for himself and let the other subject also get one piece of candy (cooperative response). Pulling the other lever will represent the subject's desire to get one piece of candy while denying the other subject any candy (competitive response). The experimenter's panel will contain four lights (two for each subject) which will inform the experimenter of any one subject's choice for a given trial.

The panels that separate the two subjects from the experimentor will each contain a small hole so that the experimentor can quietly slip the reward to each subject. A fairly loud masking noise between trials should be used to drown out the noise of the reward being given and to avoid having the subjects suspect that the other subject is being rewarded at any time other than when his "partner" in the game chooses to cooperate with him. The hole in the partition should also be provided with a cover that could be slid off and on in a quiet manner to prevent the subjects from peeking through to see what is actually happening in the experimentor's booth.

Data Analysis

A 6 by 2 by 5 within-between analysis of variance with repeated measures will be used to analyze the results of this study. The dependent variable will be the number of cooperative responses for each subject in each block of five trials. There are six levels of ethnic group pairing, two levels of administration of rewards, and five blocks of five trials.

Implications of the Study

It would be important for both teachers and social workers to be aware of the relative amounts of trusting, cooperative behavior that exist between these combinations of ethnic groups

for any group effort, whether it is in the classroom or in the form of a game on the playground. The dependent variable analyzed in this study is a behavioral one in that it represents actual cooperative behavior in a two-person, interaction situation. This makes it possible to study the action tendency component of an attitude towards cooperation rather than merely the belief or cognitive component.

Although it has been found that lower-class children learn more efficiently with immediate reward than with delayed reward, it will be of value to observe to what degree these different means of administering reward differentially effect the learning of cooperative, trusting behavior of the subgroups within the general population of the culturally deprived. The fact that the reward is being given by an adult experimenter should not be ignored in the generalization of the results of this study beyond the room in which it occurs. If, for example, the results indicate the immediate reward is more effective in the learning of cooperative behavior, it would suggest the importance for the adult teacher or social worker of immediately reciprocating approval and trust to the child who has made an attempt at cooperative, trusting behavior with his peers.

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ADDENDUM TO PROPOSAL

Brad A. Manning

The following modifications of the originally proposed study will be made:

1. Experimenters panel will be changed to two separate instrument panels each connected to one of the subjects' panels.

2. Reward administration will be changed from handing the reward through a hole in the partition to putting the reward in a plastic tube which will convey it through the subjects' panels (game board) into a plexiglass-faced box for delayed reward, or into an open tray for immediate reward.

3. The delayed reward will be changed from tokens given directly to the subject, to dried peas which will be deposited in a closed plexiglass-faced box. The peas in the box will be exchanged at the end of the experiment for candy. The tokens were replaced by peas because it was thought that the tokens might have some attractive, intrinsic value.

4. The number of trials will be changed from 25 to 30 in order for the experimenter to simulate five cooperative responses as a beginning-game cooperative set. This beginning-game treatment has been found to produce the greatest increase in cooperative behavior when the rest of the game included a simulated "tit-for-tat" strategy

(Sermat, Vello. The effect of an initial cooperative or competitive treatment upon a subject's response to conditional cooperation. Behav. Sci., 12 (4), 1967). Although Sermat used 30 beginning-game treatment trials and 200 trials beyond that point, it is hoped that the five beginning-game treatment trials will have similar effects with children; since it is doubtful that children would be patient enough to sit through 230 trials.